SOAH DOCKET NO. 582-09-3064[1]
TCEQ DOCKET NO. 2008-1888-UIC

APPLICATION OF URANIUM ENERGY CORP FOR CLASS III INJECTION WELL PERMIT NO. UR03075, FOR AQUIFER EXEMPTION, AND FOR PRODUCTION AREA AUTHORIZATION NO. 1 IN GOLIAD COUNTY, TEXAS	§	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

EXECUTIVE DIRECTOR'S EXCEPTIONS TO THE PROPOSAL FOR DECISON

The Executive Director (ED) of the Texas Commission on Environmental Quality (TCEQ or Commission), by and through a representative of the Commission's Environmental Law Division, files these exceptions to the Administrative Law Judge's (ALJ's) proposal for decision (PFD). Twenty-six issues regarding the Class III Injection Well area permit application and request for an aquifer exemption were referred for a contested case hearing at the State Office of Administrative Hearings. This hearing was subsequently consolidated with a direct referral of the application for Production Area Authorization No. 1 (PAA-1).[2] The hearing was held May 3—11, 2010 in Austin and Goliad, Texas.

Although the ED agrees with the ALJ's analysis regarding most of the issues, the ED respectfully disagrees with the ultimate recommendation of the PFD to either remand or to deny the Class III area permit and PAA-1 applications and with the specific

[1] Consolidated for hearing with SOAH Docket No. 582-09-6184; TCEQ Docket No. 2009-1319-UIC (Application by Uranium Energy Corp for Production Area Authorization No. 1).
[2] 30 TAC §55.210(b) (After receipt of a request filed under this section and after the executive director has issued his preliminary decision on the application, the chief clerk shall refer the application directly to SOAH for a hearing on whether the application complies with all applicable statutory and regulatory requirements).

analysis and findings that led to that recommendation. It is the ED's position that the Applicant has fulfilled all regulatory requirements for issuance of the Class III Injection Well area permit and PAA-1. The ED supports the PFD's conclusion that the Applicant has demonstrated that the proposed exempted aquifer meets the regulatory criteria.[3]

The ED recommends that the Commission issue the Class III area permit, grant the request for an aquifer exemption, and grant PAA-1, with the revised restoration table, as discussed in Section III, below. The ED urges the ALJ to issue findings of facts and conclusions of law that support the approval of the applications and the issuance of the permit and PAA. The ED would also support the inclusion of additional permit provisions to address some of the concerns raised by the ALJ. If the Commission remands the matter, the remand hearing should be limited only to issues F, G, H, R and T with respect to the transmissivity of the Northwest Fault. However, the ED notes that his recommendation to issue the draft permit and authorization is unlikely to be altered by the additional information the ALJ has requested to be considered on remand because the ED's position is that this information is not relevant to his evaluation of the Class III permit or PAA-1 under the applicable rules.

I. Overview

The PFD's recommendation to either remand or deny the applications centers on Issue G, as referred by the Commission:

[3] PFD, 40.

ISSUE G: Does the application adequately characterize and describe the geology and hydrology in the proposed permit area, including fault lines, under the applicable rules?

ALJ's Recommendation: Although the application characterizes and describes the geology and hydrology in the proposed permit area, including fault lines, the testimony of the witness for the ED raised questions about the adequacy of that information. The Commission's action on the application should not be completed until these questions are resolved within the record.[4]

As indicated by the PFD, Issue G acts as a cornerstone issue in that a finding that the application does not adequately characterize and describe the geology and hydrology in the proposed permit area leads to negative findings under several related issues referred by the Commission. These issues include:

- **Issue F: Is the application sufficiently protective of groundwater quality?**

  ALJ's Recommendation: Until the issue of the transmissivity of the Northwest Fault is resolved, the ALJ concludes that the application may not be sufficiently protective of groundwater quality.[5]

[4] PFD, 49.
[5] PFD, 45.

- **ISSUE H: Do the geologic and hydraulic properties of the proposed permit area indicate that the Applicant will be able to comply with rule requirements?**

  ALJ's Recommendation: The geologic and hydraulic properties of the proposed permit area were addressed in the discussion of Issue G. The recommendation about Issue G applies to Issue H.[6]

- **ISSUE R: Whether mining fluids will migrate vertically or horizontally and contaminate an underground source of drinking water (USDW).**

  ALJ's Recommendation: Until the issue of the transmissivity of the Northwest Fault is resolved, the ALJ concludes that mining fluids may migrate vertically or horizontally and may contaminate a USDW.[7]

- **ISSUE T: Whether any USDWs within Goliad County will be adversely impacted by UEC's proposed in situ uranium operations.**

  ALJ's Recommendation: Until the issue of the transmissivity of the Northwest Fault is resolved the ALJ concludes that USDWs within

[6] PFD, 57.
[7] PFD, 109.

Goliad County outside the proposed aquifer exemption area may be adversely impacted by UEC's proposed *in situ* uranium operations.[8]

It is the ED's position that the Application materials adequately describe the geology and hydrology in the region, including fault lines, as required by applicable regulations. Therefore, the ED respectfully disagrees with each of these recommendations.

The other portion of ED's position with which the PFD conflicts is the restoration table values contained in the draft PAA-1. The PAA-1 restoration table contains values for a variety of constituents, including radium and uranium, to which the aquifer must be restored after mining is completed.[9] The PFD recommends that the proposed restoration table be modified to incorporate the results of additional rounds of sampling that were conducted subsequent to the submission of the technically complete application. The ED does not object to the proposed revision to the restoration table for PAA-1 and has revised the table accordingly and attached a revised table hereto as a substitute page 12 for PAA-1 as recommended by the ED in Exhibit ED-18.

II. Northwest Fault Pump Testing

In his recommendations under Issue G, the ALJ writes that the testimony of the witness for the ED raised questions about the adequacy of information related to geology and hydrology in the proposed permit area and further, that the Commission's

[8] PFD, 121.
[9] 30 TAC §330.107(a).

action on the application should not be completed until these questions are resolved within the record.[10] The testimony in question centered on the characterization of a fault located in the northwestern portion of the proposed Class III permit area, which is referred to as the Northwest Fault. The ALJ finds that the Applicant's information regarding the number and location of the known or suspected faults is adequate.[11] However, he is unable to determine from the record evidence the extent to which the Northwest Fault is permeable or transmissive, characteristics that affect the ability of constituents such as uranium and radium to move from one side of the fault to the other. As previously stated at various opportunities, the ED does not consider that the determination of the transmissivity of the Northwest Fault is required under the applicable rules at this time for the Class III injection well permit or for PAA-1.

A. Class III permit applications only require the mapping of known or suspected faults under Section 331.122(2)(A).

The applicable Commission rule requiring information about faults in the area of review is 30 TAC §331.122 (2)(A), which requires the Commission to consider all information in the Technical Report submitted with the application for permit, including the following:

> a map showing the injection well(s) and area for which the permit is sought and the applicable area of review. Within the area of review, the map must show the number, or name, and location of all existing producing wells, injection wells, dry holes, surface bodies of water, mines (surface and subsurface), quarries, public

[10] PFD, 49.
[11] PFD, 53-54.

> water systems, water wells, and other pertinent surface features, including residences and roads. **The map should also show faults, if known or suspected.** Only information of public record is required to be on this map. If production area authorizations are required prior to the commencement of mining, the proposed production areas must be shown on the map. (emphasis added).

Because the ALJ finds that the applicant's information regarding the number and location of the known or suspected faults is adequate, Section 331.122(2)(A)'s requirements, with respect to faults, has been satisfied.

B. Class III permit applications require a *proposed* formation testing program under Section 331.122(2)(G).

The ED does not believe that investigation of local faults ends with their being properly mapped in the original application under Section 331.122(2)(A). The Class III injection well permit application must describe the proposed formation testing program to obtain an analysis of the physical, chemical and radiological characteristics of the receiving formation under Section 331.122(2)(G). Formation testing may include pump tests of local faults if the faults could affect the ability to contain mining fluids or the ability to monitor for excursions. The results of and data gleaned from the formation testing program are not included as part of the Class III injection well permit application, but are, instead, included in a subsequent application for a production area authorization.

Section 11 of UEC's Class III injection well permit application does in fact describe the proposed formation testing program and discusses the testing in the future tense. On page 11-1, the application states "aquifer pumping tests will be performed to determine the degree of hydrologic connection between aquifers, determine and locate any possible no flow or recharge boundaries (e.g., faults), and verify the hydraulic connection between the production zone monitor wells...." Section 11 of the application describes the proposed methodology for hydrologic testing that will be used for future PAA applications. The ED's review of the application specifically questioned whether the Applicant's proposed formation testing program would investigate the Northwest Fault. In the January 7, 2008 Notice of Deficiency (NOD) letter to the applicant (ED-4), David Murry asks the Applicant to indicate whether the proposed testing program will be designed to investigate the hydrologic connection between the designated A-D sands that are juxtaposed across the Northwest Fault as well as sands of the Lagarto Formation that are juxtaposed against Sand D.[12] The letter does not request that the results or data from such testing be provided as part of the application. In the January 30, 2008 response to the NOD letter, the Applicant states that comprehensive pump tests are being planned for the area around the fault to address a number of issues including: the transmissivity of the fault, vertical confinement of the A-D sands, and possible communication with the Lagarto formation.[13] Mr. Murry concluded that the applicant responded satisfactorily to his NOD request.[14] Because the Applicant properly identified and mapped the faults as required under Section 331.122(2)(A) and

[12] Exhibit ED-4, p. 5, Nos. 22 and 23.
[13] NOD Response, p. 16.
[14] Exhibit ED-1, p. 7, lines 23-27.

committed to future investigations under its formation testing program under Section 331.122(2)(G), the Executive Director concluded that the application met the applicable rules with respect to the determination of the transmissivity of the Northwest Fault.

The issue of the transmissivity of the Northwest fault was raised in the public comment on the Class III injection well permit application. The ED stated "UEC has presented the results of their geologic investigation of the site in Section 7 of the application. This application includes site-specific subsurface geologic data and delineation of two faults [including the Northwest fault]. The Executive Director considered this information in accordance with 30 TAC §331.122(2) in recommending approval of the application and issuance of a Class III injection well area permit...The results of hydrologic studies must be submitted with any subsequent application for a production area authorization. These studies will include an investigation of the transmissivity of any faults that may affect the movement of injected fluids, and the degree of communication between sands in the area...."[15]

Section 331.122 does not require fault pump test data for a Class III application and the ED has never interpreted it to require such. The ED declared the application technically complete on June 17, 2008, indicating his determination that the Applicant had submitted all information required by law. As noted in the PFD, at hearing, UEC's expert witnesses presented a wealth of information about the geology and hydrology of the area, including the areas within and surrounding the mine site.[16] After considering

[15] Exhibit ED-10, p. 55, response 81.
[16] PFD, 52.

the entire record, the ED's position remains that the application was complete as of the date of technical completeness.

The application for PA-1 does not require pump test data regarding the Northwest Fault because of PA-1's physical remoteness from the fault and it appears that no party is arguing that it does. However, if the Applicant wishes to mine close to the fault at any point in the future, it will be required to apply for a production area authorization for that area. Such an application would entail public notice and opportunity for a full contested case hearing.

The Applicant committed to conduct pump test investigations of the Northwest fault. Further, if the Applicant applies for a production area authorization in the vicinity of the fault, the ED would require information from pump tests under the existing regulations. If the Commission desires additional assurance, the ED would not oppose a specific permit condition requiring such testing as part of any future production area authorization application for those production areas that may be affected by the fault. The ED would propose the following permit provision:

> For each production area authorization (PAA) issued under this permit, the PAA application shall include the results of hydrologic testing and an interpretation of those results to determine the degree of hydrologic connection between aquifers, the location of hydrologic boundaries and recharge structures, and the degree of hydrologic connection between the portion of the production zone being mined and the production zone monitor wells. Where applicable, the PAA application will also include the results of hydrologic testing and an interpretation of those results on any faults to determine the hydrologic connection both across the fault and vertically along the fault.

C. Evidence and testimony on testing of the Northwest fault should not be given much weight.

The ALJ appears concerned that conflicting testimony about the transmissivity of the Northwest Fault precludes him from finding that the Class III injection well permit application meets all applicable requirements. The ED does not believe that the conflicting testimony should be given much consideration in determining whether these applications meet the requirements. As discussed above, the results and analysis of the fault testing program are not required to be submitted as part of the Class III application. Evidence and testimony produced in hearing suggest that some testing and analysis of the Northwest Fault has already occurred. In fact, it is discussion of this testing that resulted in conflicting testimony about the transmissivity of the fault. This testing was described as "preliminary."[17] And, this testing was not submitted as part of the application.[18] Because it was not submitted as part of the permit application it was not signed by the Applicant with requisite certifications under 30 TAC Section 305.44. Because it was not submitted as part of the permit application, it was not sealed by a professional engineer or geoscientist under 30 TAC Sections 305.45(a)(8) or 331.21.[19] Because it was not submitted as part of the permit application, it did not undergo a technical review by the ED under 30 TAC Section 281.19. The testimony and evidence that is presented on the testing of the Northwest fault appears confusing. There appear to be questions about whether a 4-hour or 24-hour test was conducted.[20] There appear

[17] Exhibit UEC Holmes-1, p. 64, lines 3 and 14.
[18] Tr. Vol. 7, p. 82, lines 8-9.
[19] Exhibit Goliad Cross-22; Exhibit UEC-Bennett 14.
[20] Exhibit UEC-Holmes 1, p. 65; Tr. Vol. 4, pp. 907-908, p. 916, lines 5-11, p. 917, lines 22-24; Tr. Vol. 7, pp. 83-84.

to remain questions about whether testing equipment was functioning properly;[21] and the graph depicting the results of the test is messy.[22] As stated above, the ED would expect a report on the pump testing of the Northwest fault to be submitted as part of a PAA application for a production area closer to the fault, and the ED would expect an opportunity to review such a report under the TCEQ's application requirements. Production Area 1 is not affected by the Northwest Fault.[23] Because the ED does not consider the applicable rules to require the determination of the transmissivity of the Northwest fault for the Class III injection well permit application or for PAA-1,[24] any conflicting testimony about the transmissivity of the Northwest Fault need not be resolved at this time.

Pump test data on the Northwest Fault will be required if and when the Applicant wishes to mine in the vicinity of the Northwest Fault and applies for a production area authorization for that area. Waiting to evaluate this data until that time will not create additional risk to the environment or human health. Indeed, the rules for Class III area permits and subsequent production area authorizations within the area permit boundaries were designed to work in exactly this manner. This regulatory scheme is designed to maintain the quality of fresh water in the state to the extent consistent with the public health and welfare and prevent underground injection that may pollute fresh water.[25]

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[21] Tr. Vol. 4, p. 911, lines 6-8.
[22] Tr. Vol. 7, p. 90, line 12.
[23] Exhibit Clark-1, p. 24, lines 13-16.
[24] Tr. Vol. 7, p. 82, lines 11-17.
[25] 30 TAC §331.1(a); Tex. Water Code §27.003.

D. If the hearing is remanded, evidence should be limited to address the pump testing of the Northwest Fault only.

If the Commission remands the matter, the ED recommends a hearing on remand limited to evidence on the pump testing of the Northwest fault; the ED does not believe that the application should be denied because of the failure to provide the results of pump testing of the Northwest fault. The ALJ writes, "If the reopening of the record is not an acceptable option, then the ALJ must treat the 24-hour pump tests as some evidence of transmissivity across the fault. Although the Commission's rules encourage the development of industry, the rule also is designed to '. . . *prevent* underground injection that *may pollute* fresh water . . . .'[26] This is some evidence that the underground injection may pollute the fresh water resources of the state, for which underground injection must be prevented."[27]

While the pump test data is certainly some evidence of transmissivity, some evidence of transmissivity across a fault within the area of review does not lead to the conclusion that the proposed mining may pollute the fresh water resources within the proposed Class III permit area. The presence or absence of a transmissive fault does not change the permittee's requirements to protect groundwater from pollution, such as the requirement to construct the wells according to TCEQ construction requirements and maintain mechanical integrity, to operate the wells in according TCEQ operating requirements, to confine mining solutions to the production zone within the area of designated zone monitor wells, to monitor and correct any excursions, and to restore the groundwater after mining.

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[26] *Id.*
[27] PFD, 56.

Even if the Class III application must be remanded, it certainly should not be denied. The additional information requested by the ALJ has not been required by this agency in the past for issuance of Class III area permits. At no time did the ED request this information, and when it was provided in discovery, the ED still did not ask the Applicant to amend its Class III application to include it because this type of test is not required unless and until there is an application for a production area authorization in the vicinity of the fault.[28] The Applicant should be given the opportunity to develop and present fault pump test data that it could not have known would be required prior to the hearing.

It is the ED's role to implement agency rules, and this implementation requires interpretation of rule requirements. For each type of application, the ED has determined what specific information is necessary for a thorough evaluation according to the applicable rules. For a Class III area application, the ED has determined that the type of pump test proposed to be required in this case is not required by the rules or necessary for thorough evaluation of the Class III application according to the rules.

III. Revision of Restoration Table Values

The ED's draft PAA-1 includes a table listing the required restoration values for a number of constituents, including uranium and radium. This table was based on data submitted with the application. This data was determined to be adequate to comply with rule requirements at the time the application was reviewed; indeed, the submission

[28] Ex. ED-17, p. 54, response 77; Tr. Vol. 7, p. 82, lines 11-15.

included groundwater samples from eighteen baseline wells analyzed for 26 constituents and parameters, exceeding rule requirements.[29] However, as noted in the PFD, evidence regarding two subsequent rounds of sampling on the same wells was introduced as part of the hearing record. The Applicant's witness sponsoring the application testified that he would be willing to add the second and third round to baseline calculations and take the average of all of those to establish the PA-1 restoration table.[30] The ED finds no reason to believe that these two additional rounds of data are more or less reliable than the first round, included in the application, which formed the basis for the draft PA-1 restoration table. The ED further believes that increasing the sample size for estimation of the mean provides a better estimate.[31] Therefore, the ED has no objection to averaging all of the values for all of the rounds of sampling in order to produce the restoration table for PA-1.

Subject to the foregoing, the ED respectfully disagrees with the conclusions in the PFD that the original restoration table failed to meet regulatory requirements. The ALJ's finding that the table failed to meet requirements is reflected in the evaluation of Class III Issue A (regarding the public interest), Class III Issue L (regarding the adequacy of the proposal for restoration), and the rule requirement that the PAA application include a restoration table that complies with regulatory requirements.[32] The PFD states:

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[29] In accordance with 30 TAC § 331.104(c), a minimum of five baseline wells, or one baseline well for every four acres of production area, whichever is greater, shall be completed in the production zone within the production area.
[30] Tr. Vol. 2, p. 367, lines 15-21.
[31] Exhibit ED-17, p. 49, response 67.
[32] Addressed under PFD Section XXVII.B., pp.127-128.

ISSUE A: Whether the use and installation of the injection wells are in the public interest under TEX. WATER CODE § 27.051(a). Public interest in regard to this issue includes whether UEC's mining operation or restoration activities will adversely impact the public interest by unreasonably reducing the amount of groundwater available for permitting by the Goliad County Groundwater Conservation District? Recommendation: UEC's proposed use and installation of the injection wells are in the public interest, subject to the revision of the baseline water quality table and restoration table for PAA-1 to reflect baseline water quality based on the average of all three rounds of sampling for all constituents. This recommendation is also based on the provisions of TEX. WATER CODE § 27.051(a) and is further addressed in Sections VIII and XVI analyzing Issues C and L and in Section XXVII B. analyzing PAA-1.[33]

The ED's position is that the proposed use and installation of the injection wells meets the requirements of the public interest consideration, whether or not the restoration table values are revised. The PFD further states:

ISSUE L: Whether UEC's proposal for restoration of groundwater to baseline levels, as contained in the permit application is reasonable and adequate.

[33] PFD, 10.

Recommendation: UEC's proposal for restoration of groundwater to baseline levels is reasonable and adequate, provided that the proposal for restoration is applied to achieve baseline water quality corresponding to the average of all three rounds of baseline sampling for all constituents.[34]

The ED's position is that the proposal for restoration of groundwater to baseline levels, as contained in the permit application, is reasonable and adequate whether or not the restoration table values are revised. Finally, the PFD states:

B. Restoration Table and Baseline Water Quality Table

Protestants relied substantially on the evidence and arguments presented in connection with Issues B, C, and L. The ALJ adopts by reference his proposed findings and recommendations with respect to those issues, including that the baseline water quality table and the restoration table should be amended to reflect the average of all three rounds of baseline groundwater quality sampling for all constituents. Thus, the ALJ finds that the PAA-1 Application fails to comply with the statutory and regulatory requirements for the baseline water quality table and the restoration table unless amended.[35]

[34] PFD, 76.
[35] PFD, 128.

The ED's position is that the Restoration Table and Baseline Water Quality Table, as contained in the PAA-1 application comply with applicable statutory and regulatory requirements, whether or not baseline water quality table and the restoration table are amended.

The PFD should recommend findings of fact and conclusions of law consistent with the ED's position on each of these issues.

IV. Conclusion

The ED continues to recommend the issuance of Class III Injection Well Area Permit UR03075, Production Area Authorization UR03075PAA1, and an Order granting the request for designation of an exempt aquifer, including the Findings of Fact and Conclusions of Law filed with the ED's Initial Post-Hearing Brief and other Findings of Fact and Conclusions of Law consistent with this recommendation.

The ED does not object to revising the restoration table contained in PAA-1 as shown in the attachment to these Exceptions, to reflect an average of all three rounds of baseline water quality sampling.

If it is the Commission's desire to add a provision to the Class III area permit requiring results of hydrologic testing for each production area, the ED would support the addition of such a provision and recommends the following:

> For each production area authorization (PAA) issued under this permit, the PAA application shall include the results of hydrologic testing and an

> interpretation of those results to determine the degree of hydrologic connection between aquifers, the location of hydrologic boundaries and recharge structures, and the degree of hydrologic connection between the portion of the production zone being mined and the production zone monitor wells. Where applicable, the PAA application will also include the results of hydrologic testing and an interpretation of those results on any faults to determine the hydrologic connection both across the fault and vertically along the fault.

If the Commission determines that remand to SOAH is appropriate, the ED recommends that the issues on remand be limited to allow parties to present evidence only on pump testing of the Northwest fault to determine if the Class III injection well permit application meets applicable requirements. However, the ED notes that his recommendation to issue the draft permit and authorization are unlikely to be altered upon remand because the ED's position is that the information requested is not relevant to his evaluation of the Class III permit or Production Area Authorization No. 1.

Respectfully submitted,

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REPRESENTING THE
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CERTIFICATE OF SERVICE

I certify that on October 22, 2010, the original *Executive Director's Exceptions to the Proposal for Decision* for the application by Uranium Energy Corp for UIC Permit No. UR03075, for aquifer exemption, and for Production Area Authorization No. 1 in Goliad County, Texas, was filed with the Office of the Chief Clerk at the Texas Commission on Environmental Quality, and a true and correct copy was mailed, faxed, or e-mailed to all persons on the attached mailing list.

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ATTACHMENT 6
RESTORATION TABLE

Parameter	Unit	Concentration
Calcium	mg/l	96
Magnesium	mg/l	17.8
Sodium	mg/l	97
Potassium	mg/l	6.4
Carbonate	mg/l	0.0
Bicarbonate	mg/l	297
Sulfate	mg/l	43.2
Chloride	mg/l	164
Nitrate-N	mg/l	0.12
Fluoride	mg/l	0.58
Silica	mg/l	29.8
TDS	mg/l	586
Conductivity	µmhos/cm	1084
Alkalinity	mg/l as $CaCO_3$	253
pH	Std. Units	7.18 to 7.96
Arsenic	mg/l	0.011
Iron	mg/l	0.067
Manganese	mg/l	0.027
Molybdenum	mg/l	0.033
Selenium	mg/l	0.007
Uranium	mg/l	0.051
$Radium^{226}$	pCi/l	385.1